

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Previously Presented) Method for measuring the degree of fiber concentration in a pulp inside a machine, in particular a refiner for the manufacture of paper pulp, which machine comprises a stator and an opposing rotor, which form a grinding gap for the pulp, with the stator being provided with at least one sensor device, designed to interact with a rotor surface and comprising an impedance meter body with a sensor surface, which impedance meter body is mounted in the stator in such a way that it can move axially, wherein measurements of the impedance between the rotor surface and the sensor surface are carried out during an axial movement of the impedance meter body and wherein the measured impedance differences are utilized together with the size of the movement to determine the dielectric constant of the pulp, from which the degree of fiber concentration of the pulp is derived.
2. (Previously Presented) Method for measuring the degree of fiber concentration according to Claim 1, wherein the size of the movement is measured using a measurement device that communicates with the impedance meter body.
3. (Previously Presented) Method for measuring the degree of fiber concentration according to Claim 1, wherein the size of the grinding gap is also measured and the value of this is utilized in determining the dielectric constant of the pulp.
4. (Previously Presented) Sensor device for measuring the degree of fiber concentration in a pulp inside a machine, in particular a refiner for the manufacture of paper pulp, which machine comprises a stator and an opposing rotor, which form a grinding gap for the pulp, which sensor device is designed to be mounted in the stator to interact with a rotor surface and comprises an impedance meter body with a sensor surface, which impedance meter body is movable in an axial direction and is

connected to an operating mechanism for axial movement relative to the housing, wherein the impedance meter body is arranged to measure the impedance between the sensor surface and the rotor surface during axial movement thereof and wherein the measured impedance differences are utilized together with the size of the movement of the impedance meter body to determine the degree of fiber concentration in the pulp.

5. (Previously Presented) Sensor device according to Claim 4, wherein essentially the whole of the impedance meter body is clad with an insulating material.
6. (Currently Amended) ~~Sensor device~~ Method for measuring the degree of fiber concentration according to Claim 3, wherein a measuring device communicates with the impedance meter body for measuring the axial movement thereof.
7. (Previously Presented) Sensor device according to Claim 5, wherein the impedance meter body is also arranged to measure the size of the grinding gap.
8. (Previously Presented) Sensor device according to Claim 5, wherein the sensor device also comprises a distance meter body, separate from the impedance meter body and arranged to measure the size of the grinding gap.
9. (Previously Presented) Method for measuring the degree of fiber concentration according to Claim 2, wherein the size of the grinding gap is also measured and the value of this is utilized in determining the dielectric constant of the pulp.
10. (Previously Presented) Sensor device according to Claim 4, wherein a measuring device communicates with the impedance meter body for measuring the axial movement thereof.
11. (Previously Presented) Sensor device according to Claim 6, wherein the impedance meter body is also arranged to measure the size of the grinding gap.

12. (Previously Presented) Sensor device according to Claim 6, wherein the sensor device also comprises a distance meter body, separate from the impedance meter body and arranged to measure the size of the grinding gap.